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Philosophical Transactions

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lowish water in it, having made a roundish cavity, impressed in that kidney: whence some thought it came, that a little before his death a suppression of Urine had befallen him; though others were of opinion, that his Urin was suppressed upon the regurgitation of all the Serosity into the Lungs. Not the least appearance there was of any *Stony* matter either in the Kidneys or Bladder. His *Bowels* were also sound, a little whitish without. His *Spleen* very little, hardly equalling the bigness of one *Kidney*. In short, all his inward parts appear'd so healthy, that if he had not changed his *Diet* and *Air*, he might perhaps have lived a good while longer.

3. The Cause of his death was imputed chiefly to the change of *Food* and *Air*; forasmuch as coming out of a clear, thin, and free *Air*, he came into the thick *Air* of *London*, and after a constant, plain, and homely Country-diet, he was taken into a splendid Family, where he fed high, and drunk plentifully of the best wines, whereupon the natural functions of the parts of his body were over-charged, his Lungs obstructed, and the habit of the whole Body quite disorder'd; upon which there could not but soon ensue a dissolution.

4. His *Brain* was found entire and ferme: And though he had not the use of his Eyes, nor much of his Memory, several years before he died; yet he had his Hearing and Apprehension very well, and was able even to the hundred and thirtieth year of his Age to do any Husbandmans work, even Threshing of Corn.

An Account of two Books,

I. *De VISCERUM STRUCTURA Exercitatio Anatomica* MARCELLI MALPIGHII, *Philos. & Med. Bonon, &c. Bononiæ 1666. in 4^o.*

A Copy of this Ingenious Book was transmitted by the Author himself to the Publisher, and there being as yet no other Copies of it in *England*, at least not among Stationers, some Account of the Contents thereof will, 'tis thought, not be unacceptable to the Curious, whilst either more of them be procured out of *Italy*, or the Book it self be reprinted here; which latter I now find actually a doing in 12. by Mr. *John Martyn*.

It contains 5. Dissertations: Of the *Liver*; the *Exterior*
part

part of the *Brain*; the *Kidneys*; the *Spleen*; the *Polypus of the Heart*. Concerning the *Liver*, he *first* gives a summary Account of what hath been said of it; *then* relateth what himself hath observed in that part, in all sorts of Living Creatures, finding it to have Lobes and to be a *Glandul* of that kind, which by Anatomists are called *Conglomerate* in contradistinction to the *Conglobate*; thirdly examines (very modestly) the reasons given by the Learned Dr. *Wharton* against 'its being a Glandul; *fourthly*, assigneth 'its office and Use, and making it no other, then that it separateth the Gall, and conveys the same, by means of the *porus biliaris*, into the Intestins; notwithstanding all the Exceptions of *De Bills*, *Deusingius*, *Sylvius* &c. Whereunto he subjoyns also the great Use of the *Gall* (esteemed a kind of Excrement by the Vulgar) in performing the part of a necessary condiment and ferment in digestion; so that upon it's absence, or obstruction in the Liver, very dangerous diseases, and especially the Dropsy, must needs ensue.

Touching the *Exterior part* of the Brain (called by Anatomists *Cerebri Cortex*) he *first* inquires into the *Nature* of it's Substance, and finds it a *Congeries of Glanduls*, more conspicuous to be such in boyled than in crude Brains, and most discernable in Fishes and Birds: Where he alledges an Observation of a Stone found in the Brain, which was fashioned like the fruit of Mulberrys, conglobated and made up of many smal kernels or grains, of ash-color, probably thus form'd by the petrified *Cortex* of the Brain, and so retaining the natural Shape of the *Glanduls* thereof. *Next*, he solveth the arguments of the above mentioned Dr. *Wharton* produced in his Book *De Glandulis*, against that Opinion. *Further*, explaining the Vessels of the Brain, and their Procefs, he affirms, that the whole Substance called the Medulla of the Brain and the After-brain, is a *Heap of Fibres* or Vessels, which from the Stock or Trunck of the spinal marrow, by many Windings and Crinkles forme those Cavities and Involutions, to be found there, and are at last deeply implanted in the very Glanduls of the Brain: Where he teaches, that the whole Work of separation and depuration is perform'd by the inward structure of the Glanduls of the Brain, the Iuyce passing immediatly

immediatly out of them into the hollow and fistulous fibres, to be conveyed by a continued course into the subjacent parts to execute it's several offices, as is performed by the little Tubes or Pipes of Plants: adding for the illustration of the Original of the Spinal Marrow and the Nerves, that that Marrow is a Bundle of Nerves, which whilst it makes up the Brain, divides it into two parts (by the circumvolutions of which the sides of the ventricles are formed) and terminates at last in the *Cortex*, wherein, and in whose Glandular grains the extreme roots of the Nerves, in the smallest size, are implanted. After this he proceeds to the use of the *Cortex*, and is of opinion, that by these little Glanduls there are separated and collected those particles, which Nature has design'd for Instruments of Sensation, and by which, when convey'd through the tubulous Nerves, the coherent parts are impregnated and swell'd, and the Animal made sensible of the operations of several Objects. Moreover he advances some consideration of his, upon the Learn'd Dr. *Willis's* Opinion about the Production of the Internal Sences by vertue of the *Brains structure*; and also upon his ascribing to those Bodies, he calls *striata* and *radiosa*, a twofold texture, whereof the one ascends, the other descends, for the perception of the impressions of Sensible Objects by the former, and the performance of Motions by the latter. *Lastly*, he takes notice that the famous Dr. *Glisson* hath derived the matter of the *Nervous Iuyce* through the nerves into the Brain, from the *Glanduls of the Mesentery*; and *Fortius*, from the *Mouth* and *Intestins*; whereas, since he has observed the Masse of the Brain made up only of a *Glandular Cortex*, and of *Fibres* proceeding from thence, together with the sanguineous vessels, and not yet found any cavities for receiving the Chyle, and conveying it into every part of the Brain; he therefore conceives, that all the Nerves are produced Out of the *Brain* and the *Cerebellum*, for this end, that they may carry down the juice separated in the very Glanduls; there wanting no sanguineous vessels, by which both sufficient matter may be furnisht, and the residue of the percolated Iuyce carri'd away again.

Concerning the *Kidneys*, he *first* relates, what hath been taught of them *hitherto*; and *then* delivers both his own observations about them, by

by a long use of the Microscope, and his deductions from them. He affirms, that he hath always observed, the *Kidneys* to be also a *Concrete* of small *Glanduls*, by injecting through the Emulgent Artery a black liquor, mixt with spirit of wine, and by cutting the *Kidney's* longways, and then finding, betwixt the Urinous Vessels and their interstices, very many of such *glanduls* which like little apples are appendant to the Sanguineous, vessels, turgid with that black liquor. He adds, that, after many trials, he at last found also a connexion betwixt those *Glanduls* and the Vessels of Urine. As to the *Pelvis*, he makes that nothing but an Expansion of the *Ureter*, as consisting of the same membrane and nervous fibres with the *Ureter*. Discoursing of the *Use* of the *Kidney's* he finds it difficult to explain, by what art and mechanisme, Nature so copiously excretes by the Reins (whose glandular structure seems to be uniforme) a liquor, which is compounded of Aqueous, Saline, Sulphury and other particles, and sometimes the reliicks of imposthums, and other filth of the Body: Where he takes great pains, in some measure to clear that matter; adding thereunto the manner of the *Stones generation* in the Kidneys.

In the Exercitation about the *Spleen*, having premised, as before in the other parts, what has been hitherto publish't about it, he subjoyns what himself hath further observed therein: viz. That the whole body of the Spleen, however it may seem to be a substance made up of concreted blood, yet is indeed a Complex of Membranes, fashion'd and distinguish't into little Folds and Cells; clearly to be seen by syringing into it store of Air by the *Ramus splenicus*, whereby the whole Spleen will become so turgid, as to swell into an excessive bigness; which if upon the exsiccation of the thus swelled part, it be presently cut, its whole masse will be found made up of Membranes, of the shape of the Cells in Bee-hives; as he affirms to have clearly seen in the Spleen of a Sheep and Hogg, and in that of a man. But then he adds, that through this whole membranous Body of the Spleen are copiously disperfed Clusters of Glanduls, or, if you will, Bladders, very plainly resembling Clusters of Grapes; appendant on the fibres, and the extremities of the arteries and nerves of that body. Coming to discourse of the *Use* of the *Spleen*, after he hath examined the various opinion of Anatomists concerning it, and declar'd his dissatisfaction therein, together with the reasons thereof, he does with great modesty as well as ingenuity offer his thoughts about it, viz. That, considering the whole structure of the Spleen, it seems to be designed for a new separation and mixture of the Juices convey'd to it's Glanduls by the Arteries and Nerves, and then collected in the Cells; whereby and by it's stay there, the Blood receives such a further change, and is so much more exalted, that being convey'd by the *Splenetick Branch* into the neighbouring *Liver* and there refermented, it acquires a disposition, for an easy separation of the *Gall* there (which is supposed to be the chief work of the Liver.)

You hing the *last* subject of these Dissertations, which is of the *Polypus* of the *Heart*; the Author observes, after the recitation of other Writers opinions of the same, that those *Excrescences* grow and swell for the most part in the Right Ventricle of the Heart sooner than the Left, as they also do about the other veins of the Lungs and Head, from this cause, That the returning mass of the blood is now, by the long continued nutrition of the parts, and by transpiration, depauperated of the spirituous and finer particles, such as are the sulphurous and the red; and whilst it is freshly confounded with the Chile, and other liquors, yet different from the nature of blood, the white and ragged parts thereof, being precipitated by the contiguity of those unlike parts, are in the large folds of the Hearts right ventricle or auricle, by their ruggedness and little chinks entangled; whence being associated to the like others, passing by, they grow into a greater bulk; as it happens in the generation of the stone in the *Pelvis* of the kidneys, or in the concretion of Tartar in water Conduits. But, besides this, the Author conceives, that the *Polypus* may be generated from other causes, since Experience evinces, that it is produced by poisonous potions, by malignant Fevers, caused chiefly by a *miasma* or corruption of the Air, and by the Plague, and other infectious Distempers; wherein it happens, that such steams or juices are, by the corrupt ferments of the *Viscera*, mixt with the Blood, which disturb its texture. This our Author illustrates by some Experiments; whereof one is, that pouring Oyl of Sulphur, or of Vitriol upon warm blood, it raiseth it, and by a kind of coction at last incrustates it: Another, that throwing pulverised Allum on it, it renders it black and adust. But that Niter, either pulverised or dissolved *per deliquium*, attenuates it, and renders it very florid; as also doth *Aqua vitæ*, *Sal gemme*, *Common Salt*, *Sal Armoniac*, *Sulphur*, and *Harts horn*; which also for a pretty while hinder the coagulation of the blood. And discounting from hence of the causes, which in the Plague, &c. do coagulate the blood, either in whole, or in part by generating *Polypus's*, he saith, that those causes ought to be taken from something analogous to *Allum*, *Vitriol* and the like, not from *Niter* and *Volatile Spirit*, which should rather be used as remedies by re-fermenting and rendring fluid the blood.

II. *EPHEMERIDES MEDICORUM SYDERUM, ex Hypothesis & Tabulis*
Joh. Dom. Cassini, *Foronæ* 1668. in thin fol.

What *Galilæo Galilæi* undertook, after he had discover'd the *Satellites* of *Jupiter*, of giving an easy and sure way to know the *Longitudes* by a careful Observation of those Stars; *Senior Cassini* seems to have now performed more fully than others, by composing certain *Tables*, after 15 years Observations made with exactness of the motion of the said *Satellites*. These *Tables* are contain'd in this Book; and for the verifying of them, he hath added the *Ephemerides* of those Stars for the year lately elapsed, viz. A. 1668. Whereupon the Author hath been desired from hence, that, if he have calculated any more *Ephemerides* of them for any following years, he would oblige the Curious by timely publishing them for observation. Meantime the *French Philosophers* at *Paris* have acquainted us in the *Journal des Sçavans* of Dec. 17. 1668. with the Observations made by them, to verifie the said *Ephemerides*, by a Telescope of 14 foot; which may be of service to those, that have made observations elsewhere at the same instant and with the same accurateness, to know the difference of Longitude between *Paris* and the Place of their Observation.

Octob. 7. 1668. hor. 10. pom. 32 m. the first Satellite (call'd *Pallas*) entred upon the face of *Jupiter*.

Oct. 8. h. 8. 11. m. The 2d Satellite (call'd *Juno*) went out behind *Jupiter*.

Oct. 9. h. 8. 54. m. the 2d. Satellite went out from the face of *Jupiter*.

Oct. 16. h. 10. 4. m. the 2d. Satellite entred upon the face of *Jupiter*.

Oct. 22. h. 10. 41. m. 33. sec. the first Satellite entred into the shadow of *Jupiter*.

Oct. 23. h. 8. 32. m. the first Satellite entred upon the face of *Jupiter*.

Nov. 12. h. 10 40. m. the 2d. Satellite entred into the shadow of *Jupiter*.

Nov. 20. h. 2. 38. m. 30. sec. after midnight, the 3d Satellite (call'd *Themis*) entred into the shadow of *Jupiter*.